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IMPACT OF RENAL ARTERY STENOSIS ON RENAL DYSFUNCTION AND OUTCOMES AFTER OPEN HEART SURGERY

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Background: Renal artery stenosis (RAS) contributes to renal dysfunction and mortality after open heart surgery (OHS).

Methods: We prospectively collected data on 714 adult patients undergoing OHS from January 2000 to April 2010 who had a renal duplex ultrasound. We tested if RAS was associated with change in glomerular filtration rate (Δ GFR) , need for dialysis, length of ICU stay and overall short and long term mortality (up to 8 yrs) using multivariable adjusted models.

Results: 714 patients (mean age 67 +/- 12.1 yrs, 63% male) with a average crt 1.7 g/dl with RAS seen in 23% (n=203) and with 22% unilateral , 6% bilateral RAS. RAS was significantly mmore commonly seen in patients with peripheral artery disease (p=0 .004) and lower HDL (p=0.04). Advanced age (p=0.01)and descending aorta grafting (p=0.004) had significantly Δ GFR. Adjusted models showed a non-significant trend between RAS and Δ GFR (p=0.09) shown in Figure 1. RAS was not significantly associated with need for dialysis (p=0.4), operative length of stay (p=0.7), mortality (p=0.7) but the presence of low GFR was a predictor of long term mortality.

Conclusions: RAS is not associated with Δ GFR, need for hemodialysis, longer ICU stay or long term mortality in patients undergoing (OHS)

Figure1: Δ GFR after cardiac surgery stratified by RAS grades. Sold line is mean and dotted lines refer to 95% confidence internals. Blue dot: no RAS, orange dot: unilateral RAS and red dot: bilateral RAS.